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A Study to Determine the Effects of Competency Based Education on Student Performance in Beginning Accounting

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A STUDY TO DETERMINE THE EFFECTS OF COMPETENCY
BASED EDUCATION ON STUDENT PERFORMANCE IN BEGINNING ACCOUNTING

A project
presented to
the Faculty of the Department of
Vocational and Technical Education
Old Dominion University

In Partial Fulfillment
of the Requirements for the Degree
Master of Science in Education

by
Benjamin P. Mason
April 1982

APPROVAL PAGE

This research paper was prepared by Benjamin P. Mason under the direction of Dr. David I. Joyner in Vocational and Technical Education 636, Problems in Education. It was submitted to the Graduate Program Director as partial fulfillment of the requirements for the Degree of Master of Science in Education.

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5/5/82
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CHAPTER 1

INTRODUCTION

Vocational educators in Virginia are working toward reaching a common goal. This goal is to provide students in vocational classes an education that is role-relevant. It has been termed Competency Based Education, and the state has set September, 1984, as its goal for full implementation of this approach.

The purpose of Competency Based Education is to provide students with the knowledge, skills, and attitudes they will need to successfully obtain employment in occupations for which they receive training or to further their education in the area if they so desire. The skills, knowledge, and attitudes were based on role-relevant competencies performed by employees in today's work force.

The State Department of Education established four major standards for Competency Based Education. These standards were:

1. Role-relevant competencies that include standards are identified and stated.
2. Competencies are specified to students prior to instruction.
3. Criterion-referenced measures are used to measure achievement of competencies.
4. A system exists for documenting the competencies achieved by each student. (Virginia CBE Standards: May, 1979)

The state also established seven basic characteristics for Competency Based Education. These characteristics were:

1. The main indicator of the student's achievement is his/her ability to effectively and efficiently do the job for which he/she is preparing.

2. Once a student has demonstrated ability to do the job for which he/she is preparing, he/she may do it after having completed the preparation. Time is not a factor. The student may finish earlier than others, or may take more time than usual if needed.
3. The criterion of success is demonstrating one's ability to do the job. Mastery criteria are used to determine how well the student performs. Students must satisfy these criteria if they are to be considered competent.
4. There is a minimum of concern for entrance requirements. Students are accepted at their level and instruction is designed accordingly.
5. Flexible scheduling of learning activities is essential to provide for individual differences among students. This allows for year-round educational opportunities and frequent enrollment periods.
6. There are no fixed rules to how, when, or where learning is to be accomplished.
7. Opportunities are provided to acquire competencies on the job or in practical field experience.

In the fall semester 1981, the researcher used Competency Based Education standards in one beginning accounting class at Arcadia High School. Beginning Accounting is a course designed to provide the basic knowledge of accounting practices and procedures, and to develop skills in recording and analyzing business transactions. The course also emphasizes the preparation, use, and interpretation of financial statements. Beginning Accounting was offered on an elective basis at either the eleventh or twelfth grade level, and it was supplementary to the Clerk Typing Occupational Program offered in the Business Education Departments in Accomack County, Virginia.

It is important that students receive instruction in accounting because accounting is often called "the language of business" as it is the language commonly used to convey financial information about

a business. It is also particularly important that all graduating business education students have at least one course in basic accounting principles whether they pursue an accounting career or not. As secretaries, as office managers, as owners of a business, or in everyday life situations the concepts and practices learned in an accounting class can be very helpful.

This course also opens up a career possibility for those students who are undecided about their futures. Each year three or four Arcadia students enroll in Beginning Accounting and find in this class a field they were not previously aware of, but enjoy the challenge and ideas they are introduced to so much that they go on to make the accounting field a career.

STATEMENT OF THE PROBLEM

The purpose of this study was to determine the effect of Competency Based Education by comparing achievement test scores of students enrolled in a competency based beginning accounting class with those scores of students enrolled in a non-competency based beginning accounting class at Arcadia High School.

HYPOTHESES

1. Students in a competency based beginning accounting class will score higher on publisher provided standardized tests than those students who are enrolled in a class that is not competency based.

2. Students in the lower half of their class ranking, according to their cumulative grade averages, will achieve significantly higher scores on publisher provided standardized tests in

beginning accounting if they receive instruction according to Competency Based Education standards than if they receive instruction that is not competency based.

3. Students in the upper half of their class, ranking, according to their cumulative grade averages, will achieve slightly higher scores on publisher provided standardized tests in beginning accounting if they receive instruction according to Competency Based Education standards than if they receive instruction that is not competency based.

BACKGROUND AND SIGNIFANCE

The future holds many opportunities for workers with skills and knowledge in the field of business and industry, and vocational business educators at the secondary level must be responsible for preparing these individuals. The development and implementation of Competency Based Education is one method of reaching vocational education's primary goal of ensuring that students possess the appropriate skills, knowledge, and attitudes required for success in education and employment.

Vocational education has already been a leader in the development of modular instruction, individualized lessons, and mastery-learning systems which bring reality into the classroom. Competency Based Education, defined as educational programs in which required knowledge, skills, and attitudes are based on role-relevant competencies, has always been a part of vocational training. Students must learn and master one level of instruction before they can progress to the next.

Melvin H. Garner, Administrative Director of Vocational and Adult Education stated that through vocational business education,

students will be prepared to assume roles in the work force. He emphasized that preparing students through programs that are competency based will enhance their chance of success in an ever increasing complex society.

LIMITATIONS

This study was limited because the students studied were not randomly selected, but rather were students who had pre-registered for beginning accounting in September 1981.

A large percentage of these students came from low socioeconomic backgrounds and were performing in the lower half of their class academically.

The study's results may have been limited because some of the questions on the publisher provided standardized tests could have been learned through life experiences rather than in class instruction.

ASSUMPTIONS

It was assumed in this study that:

1. The publisher provided standardized tests were valid tests of the level of competencies and skills learned.
2. The students being tested responded to the best of their abilities to the test questions because their course grade was partially determined by these tests.
3. Students tests scores in the competency based education class would improve gradually throughout the semester as they became more familiar with competency based education as a teaching/learning system.

PROCEDURES

Subjects for this study were students who enrolled in two beginning accounting classes at Arcadia High School, Oak Hall, Virginia. The majority of students came from low income homes, and many were low-achievers.

The same teacher taught both groups, but used two different teaching approaches with the two groups. With one group, the teacher used the traditional teaching methods and procedures. With the experimental group, the teacher used the guidelines and characteristics of Competency Based Education. Throughout the semester, a series of six publisher provided standardized tests were administered to both classes to measure student achievement.

DEFINITION OF TERMS

Terms which appear in this paper that may be unfamiliar or confusing to the reader will now be briefly defined.

1. Beginning Accounting-A course designed to provide basic knowledge of accounting procedures and to develop skills in recording and analyzing business transactions. In addition, preparation, use, and interpretation of financial records and statements are emphasized.
2. Competency-The ability (including knowledge, skills, and/or attitudes) to perform a specific task or duty successfully.
3. Competency Based Education-Educational programs in which required performances are specified and agreed to in rigorous detail in advance of instruction.
4. Competency Documentation-A system of recording student achievement in the vocational program. It should provide detailed information to the employer concerning the skills, knowledge, and attitudes possessed by the student.

5. Criterion-Referenced Measure-A test item based on a performance objective, requiring the learner to show ability to accomplish a task in a given situation according to a pre-established standard.
6. Performance Objective-A statement of exactly what the learner must do, indicating an activity that can be observed and measured. A performance objective must contain a condition which describes the situation, limits, and tools and equipment of the work environment; a behavior which states exactly what observable behavior the learner must demonstrate; and a standard which describes how precise the quality of work must be.
7. Standard-The portion of the performance objective which describes how well the task must be performed.
8. Vocational Education-Those programs, services, and activities which lead to meaningful and informed occupational choices and which develop sufficient skills and knowledge for the individual to enter and advance in the gainful satisfying career.

SUMMARY

In chapter one, the reader was introduced to competency based education and presented with the purpose of this study-to determine the effects of competency based education on student performance in beginning accounting. The reader has also been given the hypotheses, limitations, background and significance, a definition of terms, assumptions and procedures for accumulating data.

In the following chapters, the researcher will review the current literature in this subject area, discuss in detail the methods and procedures used to collect the data, and state the findings, recommendations, conclusions, and summaries drawn from this study.

CHAPTER 2

REVIEW OF THE LITERATURE

In the fall of 1981, the Virginia General Assembly's Joint Subcommittee on Vocational, Technical, and Career Education issued a statement that no Virginia public school student should be thrust into the workaday world without possessing a vocational skill. The subcommittee stated that hundreds of thousands of young men and women attend schools in Virginia each year. Most eventually graduate and either go on to college or some job-training program. However, over ten thousand students graduate each year and do not further their education. They attempt to enter the labor market inadequately prepared. Another twenty thousand drop out annually, and their economic outlook in a society where the demand and pay for unskilled and semi-skilled labor is sharply limited. (Virginian Pilot A-12)

According to the Subcommittee on Vocational, Technical, and Career Education, it was extremely cruel to release youngsters from the classroom before an attempt has been made to prepare them to become self-supporting adults. Ensuring that every student learns a job skill is not a goal that will be easily attained. The subcommittee recommended that vocational course offerings be expanded in junior and senior high schools and state aid for vocational education be expanded as well. This shows the subcommittee's prudent desire to help the young survive in a world

of work and to lighten the states prison and welfare population.

(Virginian Pilot A-12)

The recommendations fit well into the direction of vocational educators in the state of Virginia have been working to attain in the past few years, as the primary goal of vocational education in Virginia is to ensure that students acquire the skills, knowledge, and attitudes necessary to obtain employment in occupations for which they receive training. The development and implementation of Competency Based Education was one method of reaching this goal. Competency based educational concepts and principles have been used for many years to facilitate industrial and military training. It was first proposed for use in the schools on a developmental basis for the Comprehensive Elementary Teacher Education Models in 1968. The great efforts and eagerness that have been expended to develop competency based education seem to have resulted from a number of growing pressures on schools and colleges to be more accountable for the products of their programs. (Cilley: 1977, 9-11)

Competency Based Education requires that skills, knowledge, and attitudes that were taught in the classroom be based on role-relevant competencies that are performed by today's workers. Competency Based Education is defined in Virginia as:

Educational programs in which required knowledge, skills, and attitudes are based on role-relevant competencies. (Virginia Department of Education: 1979, 8)

Probably the most fundamental aspect of this definition involves the concept of competency. The definition of a competency as used here rendered the concept of life-roles as the prime considerations in designing the curriculums, providing the instruction, framing outcome goals, and measuring student performances. This

definition describes competencies as indicators of successful performance in life-roles and separates them from the cognitive, manual, and social activities that serve as the building blocks on which the competencies will ultimately depend. (Spady: 1977, 12-13)

CBE STANDARDS

The Virginia Vocational and Adult Education CBE Standards:

Requirements and Criteria (1980) provided a description of the criteria for meeting state standards for a competency based program. These standards are as follows:

I. "ROLE-RELEVANT COMPETENCIES THAT INCLUDE STANDARDS ARE IDENTIFIED AND STATED."

The competencies with standards will be identified through V-TECS, IDECC, and other appropriate research. Advisory committees should be used to review competencies and standards. Competencies in the affective domain will be included. Role-relevant competencies for occupational preparation programs are those that specifically relate to the occupations for which the student is being prepared as well as to the personal needs of the student. Role-relevant competencies are related also to orientation, exploration and/or industrial arts experiences which have been identified for students.

II. COMPETENCIES ARE SPECIFIED PRIOR TO INSTRUCTION.

A system exists to inform students regarding what will be expected at program completion. For example, teachers may provide profiles, checksheets, training plans, contracts, or other structured methods to identify outcomes. Students are aware of expected outcomes.

III. CRITERION-REFERENCED MEASURES ARE USED TO MEASURE ACHIEVEMENT OF COMPETENCIES.

Criterion-referenced measures are based on standards that are measurable. Student performance is measured against predetermined standards rather than against other student's accomplishments.

IV. A SYSTEM EXISTS FOR DOCUMENTING THE COMPETENCIES ACHIEVED BY EACH STUDENT.

The documentation provides a record of competencies achieved. The documentation may be used for articulation of the program to provide a smooth transition of the student from one school to another or from one level of instruction to another. The documentation is also a means for providing information to employers." (Virginia Department of Education: 1980, 11)

These concepts such as setting standards, identifying needs of the occupation and evaluation of student performance were not completely new to vocational education. What was new was the use of validated competencies, thoroughly systematic procedures for delivery of instruction, and more objective documentation of competencies achieved. (Cilley: 1977, 9)

CBE CHARACTERISTICS

In addition to the previously described state standards, certain characteristics were established for competency based vocational programs. These characteristics were divided into two groups: required and helpful. The required characteristics included (1) a task analysis to find out what is required in a specific employment field, and that course content be based on the results of such analysis; (2) development of performance objectives for each task or competency identified through the task analysis as essential for employment; (3) development of a measure for each competency and student performance being compared to a standard rather than another student's work; (4) holding each student accountable for achieving at least a given minimum level of competency in performing tasks essential to the occupation. (Virginia Department of Education: 1980, 5)

Characteristics described as helpful but not mandatory included (1) use of individualized materials and instruction for the students; (2) flexibility of learning time to complete

the program; and (3) using self-check lists and other assessments which give immediate feedback to guide the student's learning activities. (Virginia Department of Education: 1980, 5-6)

Many of these characteristics seem to be based on the behavioral objectives of the late 1960's and early 1970's when the general accurate but not profound observation that most teachers did not test what they said they taught was made. (Spady: 1977, 10)

ADVANTAGES OF CBE

Like any instructional system competency based education had both advantages and disadvantages. The major advantages of the system included:

1. By using task analysis and periodic reviews of the world of work, an updated, role-relevant program which teaches the correct skills, knowledge, and attitudes can be maintained. This will also ensure students that they can meet the specification of future employers when applying for work.

2. By documenting student achievements so thoroughly as required by a competency based educational system, it should allow for a much smoother articulation between secondary and post-secondary education. Teachers may see exactly which competencies have been mastered and which need additional work or have yet to be introduced to the student. These records are also valuable for student permanent records and as pre-employment information.

3. By making the instructional objectives clear to the students, the parents, and the general public prior to instruction, the teacher is able to communicate to his/her students better understanding

of course requirements. This also permits the teacher to closely monitor each student's progress in relation to stated objectives, and diagnose difficulties early so remedial instructions may be received.

4. Students may be encouraged to assume more responsibility for their own progress when completion of a program is largely dependent on the demonstration of specified competencies and more latitude is permitted with respect to the means used to attain the competencies. (Cilley: 1977, 26-27)

DISADVANTAGES OF CBE

Identified disadvantages of a competency-based system included the fact that some competencies were difficult to identify for certain occupations, that some teachers may not have the time to develop instructional materials for all the tasks which were identified, that identifying minimum performance standards was very hard for many tasks, and also that these minimum performance standards have not provided sufficient encouragement for students to attain more advanced performance levels. (Cilley: 1977, 27)

SUMMARY

This chapter has shown that competency based education represents a meaningful alternative to conventional forms of education by directing its focus on the development of tasks, skills, and attitudes that are essential to successful employment. It is an excellent tool to help vocational educators reach the goal of providing role-relevant instruction in the classroom and laboratory.

In the next chapter, the methods and procedures used to determine the influence of competency based education on the achievements of students enrolled in beginning accounting at Arcadia High School will be discussed.

CHAPTER 3

METHODS AND PROCEDURES

The primary purpose of this study was to determine whether a class taught by competency based education methods and procedures produced an improved student understanding of the concepts and principles introduced in Beginning Accounting than a class taught by traditional methods.

This was accomplished by studying the performances of two beginning accounting classes at Arcadia High School, Oak Hall, Virginia during the fall semester 1981-1982. Their performances were evaluated by administering publisher provided standardized tests to both classes throughout the semester. These tests were published by the South-Western Publishing Company to accompany Century 21 Accounting, Second Edition, the text used in all beginning accounting classes at Arcadia High School. The tests were designed to evaluate student performance on the key concepts and practices presented in the text.

POPULATION FOR THE STUDY

The population for this study was not randomly selected, but were students who had pre-registered to take beginning accounting during the third and sixth periods at Arcadia High School in the fall of 1981. The population of these classes was 83% female and 17% male. Juniors made up 76% of the population and seniors made up the other 24%.

SELECTION OF THE INSTRUMENT

To obtain the data for completing this research effort, a series of publisher provided objective tests and problem style tests were administered to the students throughout the semester. These tests, designed by Robert M. Swanson, Lewis D. Boynton, Kenton E. Ross, and Robert D. Hanson, the authors of Century 21 Accounting, Second Edition, were selected to evaluate student performance because they covered thoroughly the concepts, principles, and practices presented to both classes by the teacher.

Each objective test contained approximately one hundred questions that were matching, true-false, and multiple choice in nature. Each objective test emphasized knowledge of accounting terminology and concepts related to the unit just studied.

The problem style tests were designed to give students an opportunity to complete the activities that would actually be performed by practicing accounting clerks in the profession today. The students were required to prepare journal entries, post to ledgers, prepare interim reports, and prepare financial statements on these problem style tests. Copies of each test are included in the appendix.

Since the students knew these tests had a direct bearing on their grade, it was assumed that an analysis and review of the test results would reveal the effectiveness of competency based education as an instructional tool as compared with traditional teaching methods.

ANALYSIS OF THE RESPONDENTS

The test results from students in both classes were used in

this research. This represented one hundred percent of the students in these two classes and seventy-seven percent of all students taking beginning accounting at Arcadia High School during the fall semester, 1981.

DATA TREATMENT

The test results for each class were compiled throughout the first semester. A mean test score for each student was obtained by averaging the results of the six tests. The mean of each class were then computed and compared to determine which class scored higher on the standardized tests.

The test scores for each group were reviewed further to determine whether competency based education had a greater effect on students performing in the lower half of their class as determined by their overall scholastic average than on those students performing in the upper half of their class. This was accomplished by dividing the scores of each class into two groups, (students with scholastic averages of 85 and above on all classes taken and students with scholastic averages below 85). Means for each group were determined and T-tests of mean differences were performed for the specific variable, competency based education. The results of the T-tests were applied using the proper degree of freedom to determine the level of significance.

A nominal scale was used for tabulation of the results from the tests. All data was tabulated by the hand scoring method. The data was analyzed quantitatively and reported in table form. The basis for the validity of this entire study depended on:

1. The ability of the instructor to conduct the competency based education class according to state mandated principles.
2. The average ability of the students in both classes to be approximately equal.

SUMMARY

This chapter has described the methods and procedures used to collect and analyze the data for this study. In the preceeding chapters, the findings, recommendations, conclusions, and summaries reached by the researcher will be stated.

CHAPTER 4

FINDINGS

The first goal of this study was to determine whether the techniques prescribed by competency based education had a significant effect on the achievement of students enrolled in beginning accounting at Arcadia High School, Oak Hall, Virginia. To achieve this goal, the mean scores of six standardized tests given to each student in the study were determined. These students had previously been divided into two groups according to class enrollments. Group A students had been given instruction according to competency based education and group B students had been given instruction according to traditional teaching methods and procedures. The standardized test scores and mean test score for each student are shown in Table I.

TABLE I

GROUP A		GROUP B	
STUDENT	MEAN	STUDENT	MEAN
1	98.50	1	93.83
2	93.67	2	91.33
3	92.33	3	90.00
4	92.00	4	89.33
5	92.00	5	88.33
6	91.67	6	88.17
7	90.50	7	84.00
8	90.33	8	83.67

GROUP A		GROUP B	
STUDENT	MEAN	STUDENT	MEAN
9	90.00	9	83.50
10	89.67	10	82.00
11	89.33	11	81.83
12	86.67	12	80.83
13	85.50	13	75.50
14	84.33	14	75.33
15	83.67	15	75.33
16	83.67	16	74.17
17	83.50	17	36.17
18	81.83		
19	79.83		
20	79.67		
21	79.00		
<hr/>		<hr/>	
$\Sigma x = 1,837.67$		$\Sigma x = 1,373.82$	
$\bar{X} = \frac{\Sigma x}{N} = \frac{1,837.67}{21}$		$\bar{X} = \frac{\Sigma x}{N} = \frac{1,373.82}{17}$	
$= 87.51$		$= 80.81$	

The mean of Group A was 87.51, and the mean of Group B was 80.81. The median scores for Group A was 89.33 and for Group B it was 83.50. The modal score for Group A was 83.67 and for Group B it was 75.33.

Table II represents the mean test scores for those students who maintained a scholastic average of 85 and above on all classes taken. (students in the upper half of their class) The means (\bar{x}), deviations from the mean (d), and deviations squared (d^2) were computed as shown in Table II.

TABLE II

GROUP A				GROUP B			
STUDENT	\bar{X}	d	d^2	STUDENT	\bar{X}	d	d^2
1	98.50	6.12	37.45	1	93.83	7.62	58.06
2	93.67	1.29	1.66	2	91.33	5.12	26.21
3	92.33	-.05	.00	3	90.00	4.21	17.72
4	92.00	-.38	.14	4	89.33	3.12	9.73
5	92.00	-.38	.14	5	88.17	1.96	3.84
6	90.50	-1.88	3.53	6	75.50	-10.71	114.70
7	90.33	-2.05	4.20	7	75.33	-10.88	118.37
8	89.67	-2.71	7.34				
	$\bar{X}=739.00$		$\Sigma = 54.46$		$\bar{X}=603.49$		$\Sigma = 348.63$
$\bar{X} = \frac{\Sigma x}{N} = \frac{54.46}{8}$				$\bar{X} = \frac{\Sigma x}{N} = \frac{348.63}{7}$			
$= 92.38$				$= 86.21$			

$$\begin{aligned}
 t &= \frac{92.38 - 86.21}{\sqrt{\frac{54.46 + 348.63}{8 + 7 - 2} \cdot \frac{8 + 7}{8 \times 7}}} = \frac{6.17}{\sqrt{\frac{(403.09)(15)}{(13)(56)}}} \\
 &= \frac{6.17}{\sqrt{\frac{6046.35}{728}}} \\
 &= \frac{6.17}{\sqrt{8.305}} \\
 &= \frac{6.17}{2.88} \\
 &= 2.142
 \end{aligned}$$

The result of this t-test was then applied to Table III of J. T. Spence's Elementary Statistics (1) at the proper degree of freedom which indicated the value of t for one-tailed and two-tailed tests at specific levels. The degree of freedom for this sample was 13 (8 + 7 - 2 = 13).

By using the figures in Spence's Table III, it was determined that the t-test result of 2.142 was significant at the .025 level of a one-tailed test and at the .050 level of a two-tailed test. Thus, the findings of this sections of the study indicated that the variable, competency based education, had a significant effect on the achievement of students enrolled in beginning accounting at a range of 2.5 to 5 percent.

Table III represents the mean test scores for those students who maintained a scholastic average of less than 85 on all classes taken. (students in the lower half of their class) The means (\bar{x}) deviations from the mean (d), and deviations squared (d^2) were computed as shown in Table III.

TABLE III

GROUP A				GROUP B			
STUDENT	\bar{X}	d	d^2	STUDENT	\bar{X}	d	d^2
1	91.67	7.16	51.27	1	88.33	11.48	131.79
2	90.00	5.49	30.14	2	84.00	7.15	51.12
3	89.33	4.82	23.23	3	83.67	6.82	46.51
4	86.67	2.16	4.67	4	83.50	6.65	44.22
5	85.50	.99	.98	5	82.00	5.15	26.52
6	84.33	-.18	.03	6	81.83	4.98	24.80
7	83.67	-.84	.71	7	80.83	3.98	15.84
8	83.67	-.84	.71	8	75.50	-1.35	1.82
9	83.50	-1.01	1.02	9	75.33	-1.52	2.31
10	81.33	-2.68	7.18	10	74.17	-2.68	7.18
11	79.83	-4.68	21.90	11	36.17	-40.68	1654.86
12	79.67	-4.84	23.43				
13	79.00	-5.51	30.36				
\bar{X}	$= 1098.67$		195.63	\bar{X}	$= 845.33$		$= 2006.97$
\bar{X}	$= \frac{\Sigma x}{N} = \frac{1098.67}{13}$			\bar{X}	$= \frac{\Sigma x}{N} = \frac{845.33}{11}$		
	$= 84.51$				$= 76.85$		

$$\begin{aligned}
 t &= \frac{84.51 - 76.85}{\sqrt{\frac{195.53 + 2006.97}{13 + 11 - 2} \cdot \frac{13 + 11}{13 \times 11}}} \\
 &= \frac{7.66}{\sqrt{\frac{2202.5}{22} \cdot \frac{24}{143}}} \\
 &= \frac{7.66}{\sqrt{\frac{52860}{3146}}} \\
 &= \frac{7.66}{\sqrt{16.80}} \\
 &= \frac{7.66}{4.10} \\
 &= 1.868
 \end{aligned}$$

The result of this t-test was also applied to Table III of J. T. Spence's Elementary Statistics (1) at the proper degree of freedom which indicated the value of t for one-tailed and two-tailed tests as specific levels. The degree of freedom for this sample was 22 (13 + 11 - 2 = 22).

By using the figures in Spence's Table III, it was determined that the t-test result of 1.868 was significant at the .05 level of a one-tailed test and at the .10 level of a two-tailed test. Thus, the findings of this section of the study indicated that the variable , competency based education, had a significant effect on the achievement of students enrolled in beginning accounting at a range of 5 to 10 percent.

In the last chapter the researcher will use the findings to draw conclusions and make recommendations as to whether competency based education did significantly affect student achievement in beginning accounting at Arcadia High School.

CHAPTER 5

SUMMARY, CONCLUSION, AND RECOMMENDATIONS

The purpose of this study was to determine the effect Competency Based Education had on student achievement in beginning accounting at Arcadia High School. As a means to accomplish this goal, a study was conducted to determine the influence of Competency Based Education on the achievement of students enrolled in one beginning accounting class at Arcadia High School.

A review of the literature related to this topic showed that the state of Virginia has placed a great deal of emphasis on Competency Based Education, and that the state has set September, 1984, as the target date for implementing this instructional system. Therefore, the researcher felt that sufficient provocation existed to encourage proceeding with this study.

Chapter 3 explained the methods and procedures used to collect and analyze the data involved in this study. The data consisted of achievement test score results of students enrolled in two beginning accounting classes at Arcadia High School. One beginning accounting class was taught by Competency Based Education methods and one class was taught by traditional methods. These test scores were then divided into two groups - those students whose overall grade average on all courses taken was 85 or above and those students whose grade average on all courses taken was below 85. The means of each set were then applied to a t-test in order to determine

whether Competency Based Education had a greater effect on students achieving in the top half of their class than those students performing in the lower half of their class.

The findings were given in Chapter 4, which presented tables to illustrate the procedures used. Overall, the class receiving Competency Based Education averaged 87.51 on all achievement tests taken whereas the class taught by traditional methods averaged 80.81 on all tests, an average improvement of one letter grade per student. The results also indicated that Competency Based Education had a significant effect on the achievement of students performing in the top half of their class and enrolled in beginning accounting at a range of 2.5 to 5 percent. For those students enrolled in beginning accounting and performing in the lower half of their class on all courses taken, Competency Based Education had a significant effect on student achievement at a range of 5 to 10 percent.

In the next two sections, the researcher will draw conclusions from the findings and make recommendations for the future.

CONCLUSIONS

From the results indicated in the findings of Chapter 4, it can be concluded that the students enrolled in the beginning accounting class that was taught by Competency Based Education standards had a higher average standard test score than those who were taught by traditional methods. The results also indicated that Competency Based Education had a greater effect on the achievement of students performing in the lower half of their class (significant at a range of 5 to 10 percent) than on students performing in the upper half of

their class (significant at a range of 2.5 to 5 percent). Therefore, the researcher was able to reach the following conclusions:

1. The effects of Competency Based Education is significant enough to require all beginning accounting students to receive training by Competency Based Education methods and procedures during the next school year.

2. Those students who need the most help (those performing in the bottom half of their class) are significantly helped by a Competency Based instructional system.

3. Those students performing in the top half of their class are helped somewhat by Competency Based Education although no great significance can be shown here.

RECOMMENDATIONS

After reviewing the procedures involved in researching this problem, the data that was collected and analyzed, and the results that were obtained, it can be implied that:

1. The findings of this study should be expanded into further research before the conclusions presented can be confirmed or refuted.

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A P P E N D I X

ANALYZING
PRINCIPLES OF
DEBIT AND CREDIT
AND BUSINESS
TRANSACTIONS

OBJECTIVE TEST NO. 1

CHAPTERS
1-6

Name _____

Date _____ Class _____

DIRECTIONS:

Do not open this booklet until you are told to do so.

Do not ask questions during the test.

Specific directions are given at the beginning of each section of the test.

All sample questions are marked "0."

	Perfect Score	Your Score
Pg. 2	29	_____
Pg. 3	25	_____
Pg. 4	40	_____
Total Score	94	<input type="text"/>

CENTURY ACCOUNTING

Swanson • Boynton • Ross • Hanson SECOND EDITION

 First-Year
Course



SECTION A — BUSINESS VOCABULARY

DIRECTIONS: Select the term in Column I that best completes the statement in Column II. Then print the identifying number of that term in the Answers column.

COLUMN I	COLUMN II	Answers	For Scoring
account	0. The first book in which the records of a business are written.....	28	0. ✓
account balance	1. The orderly records of the financial activities of an individual or of a business.....		1.
account title	2. Anything of value that is owned.....		2.
accountant	3. The business paper from which a journal entry is made.....		3.
accounting clerk	4. The claims against the assets of a business.....		4.
accounting records	5. The one to whom an amount is owed.....		5.
asset	6. Keeping accounting records by means of machines and equipment that operate automatically.....		6.
automated data processing	7. An amount that is owed.....		7.
balance sheet	8. Each record in a journal.....		8.
business transaction	9. Information that consists of detailed or factual items.....		9.
capital	10. An accounting form that is used to sort and summarize the changes caused by business transactions.....		10.
cash journal	11. What a business is worth.....		11.
chart of accounts	12. A decrease in capital that results from the operation of a business..		12.
check	13. Transferring the entries in a journal to the accounts in a ledger....		13.
creditor	14. An entry on the right-hand side of a two-column account.....		14.
credit balance	15. An increase in capital that results from the operation of a business..		15.
credit entry	16. An entry to record information that is not to be posted.....		16.
data	17. Pencil totals written in small figures.....		17.
data processing	18. Analyzing a business transaction into its debit and credit parts and recording each part in a journal.....		18.
debit balance	19. A written acknowledgment given when something is acquired.....		19.
debit entry	20. An order in writing, signed by the depositor, ordering the bank to pay cash from the depositor's account to a person or business named.....		20.
double-entry accounting	21. The recording of the debit part and the credit part of each transaction.....		21.
entry	22. The difference when the total costs exceed the total revenue.....		22.
equities	23. Revenue and expense accounts.....		23.
expense	24. The difference between the totals of the amounts posted to the two sides of an account.....		24.
flowchart	25. A skeleton form of ledger account that shows only the account title and the debit and credit sides.....		25.
footings	26. A group of accounts.....		26.
journal	27. An entry on the left-hand side of a two-column account.....		27.
journalizing	28. A list of account titles along with their numbers showing the arrangement of the accounts in the ledger....		28.
ledger	29. The entry that records the data shown on a beginning balance sheet.....		29.
liability			
loss			
memorandum entry			
opening entry			
opening an account			
posting			
proprietor			
receipt			
revenue			
source document			
T-account			
temporary capital account			

SECTION B — ANALYZING ACCOUNTING PRINCIPLES AND PRACTICES

DIRECTIONS: After each of the statements below, place a check mark in one of the Answers columns to indicate your answer. The first item "0" is given as an example.

	Answers		For Scoring
	True	False	
0. Cash transactions are posted in less time from a cash journal than from a two-column general journal.....	✓		0. ✓
1. Accounting clerks are sometimes referred to as bookkeepers.....			1.
2. Automated data processing uses the same principles of accounting as manual data processing.....			2.
3. When a business has creditors, the owner of the business has first claim against the assets of the business.....			3.
4. The debit part of a business transaction does not always have to equal the same amount as the credit part.....			4.
5. The opening entry includes a record of the revenue and expenses of a business at the time its new accounting system is started.....			5.
6. The liabilities of a business are also known as its debts.....			6.
7. A memorandum entry does not affect the balance of any account.....			7.
8. All business transactions affect the balances of at least two accounts.....			8.
9. Since $ASSETS = LIABILITIES + CAPITAL$, it is also true that $ASSETS - LIABILITIES = CAPITAL$			9.
10. In every business transaction, the balance of at least one account is increased and the balance of at least one other account is decreased.....			10.

SECTION C — THE PRINCIPLES OF DEBIT AND CREDIT

DIRECTIONS: Place a check mark in the proper Answers column to show which word, debit or credit, completes each statement accurately. The first item, "0", is given as an example.

	Answers		For Scoring
	Debit	Credit	
0. The right-hand side of the two-column ledger account is used when posting a.....		✓	0. ✓
11. The balance of an asset account is always a.....			11.
12. The balance of a liability account is always a.....			12.
13. The balance of the proprietor's capital account is always a.....			13.
14. An increase in an asset appears in the proper asset account as a.....			14.
15. An increase in a liability appears in the proper liability account as a.....			15.
16. In every journal entry there is always an equal debit and.....			16.
17. A decrease in an asset appears in the proper asset account as a.....			17.
18. Each amount recorded in the cash payments column of a cash journal is a.....			18.
19. Each amount recorded in the sales (revenue) column of a cash journal is a.....			19.
20. The expense part of an expense transaction is recorded in the proper expense account as a.....			20.
21. The balance of an expense account is always a.....			21.
22. The balance of a revenue account is always a.....			22.
23. The left-hand side of the two-column account is used when posting a.....			23.
24. A decrease in a liability is recorded in the proper liability account as a.....			24.
25. Each amount recorded in the cash receipts column of a cash journal is a.....			25.

SECTION D — ANALYZING BUSINESS TRANSACTIONS INTO THEIR DEBIT AND CREDIT PARTS

DIRECTIONS: Print in the Answers columns the capital letters that represent the correct account titles to be debited and credited for each of the transactions given below. The account titles are arranged in alphabetic order in the column at the left. The first transaction, "0", is given a sample.

LIST OF ACCOUNTS

TRANSACTIONS

A — Advertising Expense
B — Automobile
C — Automobile Expense
D — Cash
E — Commissions Revenue
F — Judd Company
G — Office Furniture
H — Office Machines
I — Rent Expense
J — Telephone Expense
K — Webb Company

	<i>A</i>	<i>D</i>	0. ✓	0. ✓
0-0. Paid cash for advertisements in local paper . . .				
1-2. Paid cash for rent of office for the month			1.	2.
3-4. Received cash as commission from sale of house			3.	4.
5-6. Received cash from sale of old office furniture .			5.	6.
7-8. Paid cash for gas and oil used in operating the automobile			7.	8.
9-10. Paid cash to the Webb Company in partial payment of the amount owed			9.	10.
11-12. Received cash as commission for renting of a house			11.	12.
13-14. Paid cash to the Judd Company in full payment of amount owed			13.	14.
15-16. Paid cash for telephone bill			15.	16.
17-18. Received cash from sale of old office machine .			17.	18.
19-20. Paid cash for purchase of new office furniture .			19.	20.

SECTION E—ANALYZING BUSINESS TRANSACTIONS IN THE CASH JOURNAL

CASH JOURNAL

PAGE 1

[illegible]

DIRECTIONS: In the above illustration of the cash journal, each column is identified by a capital letter. For each of the transactions listed above in SECTION D, print in the Answers Debit column the capital letter that identifies the column in which the amount of the debit would be recorded. Also, print in the Answers Credit column the capital letter that identifies the column in which the amount of the credit would be recorded.

Answers		For Scoring	
Debit	Credit	Debit	Credit
<i>B</i>	<i>J</i>	0. ✓	0. ✓
		21.	22.
		23.	24.
		25.	26.
		27.	28.
		29.	30.
		31.	32.
		33.	34.
		35.	36.
		37.	38.
		39.	40.

Name _____

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CENTURY 21
ACCOUNTING
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Perfect Score 131 — Deductions_____ = Your Score

Listed below are the business assets and the business liabilities of Daniel M. Brown, Certified Public Accountant.

Assets		Liabilities	
Cash	\$ 840.00	Dalton Equipment Company	\$600.00
Office Supplies	70.00	Plimpton Supply Company	10.00
Office Furniture and Equipment	2,100.00		

INSTRUCTIONS: On the form provided below, prepare a balance sheet for Daniel M. Brown, C.P.A. Use as the date November 1 of the current year.

[illegible]

INSTRUCTIONS: 1. In the general journal provided on page 2, record the opening entry for Daniel M. Brown, C.P.A.

PROBLEM TEST NO. 1

GENERAL JOURNAL

PAGE 1

DATE	ACCOUNT TITLE	POST. REF.	DEBIT	CREDIT
1				
2				
3				
4				
5				
6				
7				
8				
9				

INSTRUCTIONS: 2. Post the opening entry to the accounts appearing below.

ACCOUNT *Cash* ACCOUNT NO. 11

DATE	ITEM	POST. REF.	DEBIT	DATE	ITEM	POST. REF.	CREDIT

ACCOUNT *Office Supplies* ACCOUNT NO. 12

DATE	ITEM	POST. REF.	DEBIT	DATE	ITEM	POST. REF.	CREDIT

ACCOUNT *Office Furniture and Equipment* ACCOUNT NO. 13

DATE	ITEM	POST. REF.	DEBIT	DATE	ITEM	POST. REF.	CREDIT

ACCOUNT *Dalton Equipment Company* ACCOUNT NO. 21

DATE	ITEM	POST. REF.	DEBIT	DATE	ITEM	POST. REF.	CREDIT

ACCOUNT *Plimpton Supply Company* ACCOUNT NO. 22

DATE	ITEM	POST. REF.	DEBIT	DATE	ITEM	POST. REF.	CREDIT

ACCOUNT *Daniel M. Brown, Capital* ACCOUNT NO. 31

DATE	ITEM	POST. REF.	DEBIT	DATE	ITEM	POST. REF.	CREDIT

PROBLEM TEST NO. 1

SECTION C — JOURNALIZING CASH TRANSACTIONS (61 points)

Appearing below are some of the transactions of Daniel M. Brown for the month of November of the current year. These transactions are to be recorded in the cash journal that is provided.

INSTRUCTIONS: 1. Record as a memorandum entry the cash balance of \$840.00 on November 1.

2. Record the transactions. Source documents are abbreviated as: check, Ck; receipt, R. The account titles needed are to be selected from the following list:

Cash	Dalton Equipment Company	Fees Revenue	Miscellaneous Expense
Office Supplies	Plimpton Supply Company	Advertising Expense	Rent Expense
Office Furniture and Equipment	Daniel M. Brown, Capital	Electricity Expense	Telephone Expense

- Nov. 1 — Paid \$300.00 for November rent. Ck1.
 3 — Paid \$31.00 for phone bill. Ck2.
 6 — Received \$450.00 from fees revenue. R1.
 9 — Paid \$24.00 for monthly electric bill. Ck3.
 13 — Paid \$19.00 for newspaper advertisement. Ck4.
 18 — Paid \$300.00 to Dalton Equipment Company in part payment of amount owed. Ck5.
 23 — Received \$350.00 from Daniel M. Brown as an additional investment in the business. R2.
 28 — Paid \$225.00 for office desk and chair. Ck6.
 30 — Received \$35.00 from the sale of a used adding machine. R3.

INSTRUCTIONS: 3. Foot each amount column of the cash journal.

4. Prove the equality of debits and credits.
 5. Complete the Totals line of the cash journal.
 6. Rule the cash journal.

CASH JOURNAL

PAGE 1

1				2				3				4				5							
CASH DEBIT				GENERAL DEBIT				DATE		ACCOUNT TITLE				NO.		POST. REF.		GENERAL CREDIT		FEES REVENUE CREDIT		CASH CREDIT	
1																							1
2																							2
3																							3
4																							4
5																							5
6																							6
7																							7
8																							8
9																							9
10																							10
11																							11
12																							12

LEDGER,
WORK SHEET,
AND
FINANCIAL
STATEMENTS

OBJECTIVE TEST NO. 2

CHAPTERS
7-11

Name _____

Date _____ Class _____

DIRECTIONS:

Do not open this booklet until you are told to do so.

Do not ask questions during the test.

Specific directions are given at the beginning of each section of the test.

All sample questions are marked "0."

	Perfect Score	Your Score
Pg. 2	55	_____
Pg. 3	25	_____
Pg. 4	20	_____
Total Score	100	<input type="text"/>

CENTURY ²¹® ACCOUNTING

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 First-Year Course



SECTION E — BUSINESS VOCABULARY

DIRECTIONS: Select the term in Column I that best completes the statement in Column II. Then print the identifying number of that term in the Answers column.

COLUMN I	COLUMN II	Answers	For Scoring
1. accounting cycle	0. An entry that contains two or more debits or two or more credits is called a	8	0. ✓
2. analysis paper	1. An account that has had its balance transferred to another account is called a		1.
3. balance sheet	2. The account to which the balance of each revenue and each expense account is transferred at the end of the fiscal period is called		2.
4. balancing an account	3. When the total revenue is larger than the total expenses, the amount of the difference is called		3.
5. closed account	4. After the closing entries are posted, an account with a balance remaining is called an		4.
6. closing entry	5. The process of determining the balance of an account and bringing the balance into the new section of the account is called		5.
7. closing the ledger	6. Analysis paper on which the financial condition of a business is summarized is called a		6.
8. combined entry	7. The process of transferring the balances of the revenue and expense accounts through a summary account to the proprietor's capital account is called		7.
9. fiscal period	8. The length of time for which an analysis of business operations is made is called a		8.
10. fiscal year	9. The proof of the equality of the debits and credits in the ledger is called a		9.
11. Income Summary	10. The report showing the revenue, the expenses, and the net income or the net loss for a fiscal period is called the		10.
12. income statement	11. Transferring the entries in a journal to the accounts in a ledger is called		11.
13. ledger	12. Accounting paper with a number of amount columns that can be used to sort and analyze information is called		12.
14. net income	13. The complete series of activities involved in double-entry accounting during a fiscal period is called the		13.
15. net loss	14. When the total expenses are larger than the total revenue, the difference is called		14.
16. open account	15. An entry that transfers the balance from one account to another is called a		15.
17. opening entry	16. The trial balance taken after the closing entries have been posted is called a		16.
18. post-closing trial balance	17. An accounting period of twelve consecutive months is called a		17.
19. posting			
20. proving cash			
21. Sales			
22. trial balance			
23. work sheet			

SECTION F — CLOSING THE LEDGER

DIRECTIONS: For each of the following closing entries, indicate the accounts to be debited and credited by writing the account numbers in the Debit and the Credit columns. Select the account numbers from the list given below at the left. Only the accounts needed for the closing entries are given in the list.

ACCOUNT TITLES	ACCT. NOS.		Answers		For Scoring	
			Debit	Credit	Debit	Credit
Alice Taylor, Capital	31	0-0. Close the sales account	42	32	0. ✓	0. ✓
Income Summary	32	18-19. Close the commissions revenue account			18.	19.
Commissions Revenue	41	20-21. Close all the expense accounts			20.	21.
Sales	42	22-23. Close the income summary account (net income)			22.	23.
Advertising Expense	51	24-25. Close the income summary account (net loss)			24.	25.
Automobile Expense	52					
Entertainment Expense	53					
Miscellaneous Expense	54					
Rent Expense	55					

SECTION G — EXAMINING ACCOUNTS, POSTING, STATEMENTS, AND CLOSING ENTRIES

DIRECTIONS: For each of the following items, select the phrase that best completes the sentence. Then print in the Answers column at the right the identifying capital letter.

	Answers	For Scoring
0. The income statement is a report that shows the (A) financial progress of a business for a fiscal period (B) financial condition of a business on a particular date (C) net worth of a business for a past fiscal period.	A	0. ✓
1. Each time an individual amount in a General column of the cash journal is posted, the number of the account to which it is posted is recorded in the (A) Post. Ref. column of the account (B) Post. Ref. column of the journal (C) No. column of the journal.		1.
2. The amounts for preparing the revenue section of the income statement are obtained from the (A) Trial Balance Debit column of the work sheet (B) Income Statement Debit column of the work sheet (C) Income Statement Credit column of the work sheet.		2.
3. The balance sheet is a report that shows the (A) financial progress of a business for a fiscal period (B) financial position of a business on a particular date (C) net income of a business for a past fiscal period.		3.
4. The information necessary for closing the expense accounts is found in the (A) Income Statement Debit column of the work sheet (B) Income Statement Credit column of the work sheet (C) Balance Sheet Credit column of the work sheet.		4.
5. The amounts for the liabilities section of the balance sheet are obtained from the (A) Income Statement Credit column of the work sheet (B) Balance Sheet Debit column of the work sheet (C) Balance Sheet Credit column of the work sheet.		5.
6. The number 1 in the account number 14 represents the (A) number of the ledger division in which this account is located (B) position of the account within this ledger division (C) total number of accounts that are in this ledger division.		6.
7. The special columns in the cash journal are posted (A) daily (B) weekly (C) at the end of the month.		7.
8. An accounting form that is used to sort and summarize the changes caused by business transactions is called (A) a balance sheet (B) a journal (C) an account.		8.
9. All calculations on the income statement are assumed to be correct when the net income amount on the income statement agrees with the (A) net income amount in the Income Statement Debit column of the work sheet (B) total of the Income Statement Debit column of the work sheet (C) total of the Income Statement Credit column of the work sheet.		9.
10. The division of the ledger in which the income summary account is placed is the (A) liabilities division (B) capital division (C) revenue division.		10.
11. The amounts for preparing the expenses section of the income statement are obtained from the (A) Trial Balance Credit column of the work sheet (B) Income Statement Debit column of the work sheet (C) Income Statement Credit column of the work sheet.		11.
12. The two columns of the work sheet in which the amount of a net income is written are (A) Income Statement Debit and Balance Sheet Debit (B) Income Statement Credit and Balance Sheet Credit (C) Income Statement Debit and Balance Sheet Credit.		12.
13. The amount of the net income obtained in the Income Statement section of the work sheet is extended into the Balance Sheet Credit column because it increases (A) assets (B) capital (C) revenue.		13.
14. The first step in posting an entry from the cash journal to a ledger account is to write the (A) date (B) account title (C) amount.		14.
15. The two columns of the work sheet in which the amount of a net loss is written are (A) Income Statement Credit and Balance Sheet Debit (B) Income Statement Credit and Balance Sheet Credit (C) Income Statement Debit and Balance Sheet Credit.		15.
16. The information necessary for closing the revenue account is found in the (A) Income Statement Debit column of the work sheet (B) Income Statement Credit column of the work sheet (C) Balance Sheet Debit column of the work sheet.		16.
17. The amounts for the assets section of the balance sheet are obtained from the (A) Income Statement Debit column of the work sheet (B) Balance Sheet Debit column of the work sheet (C) Balance Sheet Credit column of the work sheet.		17.
18. The second step in preparing a trial balance is to (A) enter on the trial balance each account title listed in the ledger and its balance (B) write the trial balance heading at the top of a sheet of paper that has two amount columns (C) rule a single line across both amount columns under the last amount listed.		18.
19. The number 4 in the account number 14 represents the (A) number of the ledger division in which this account is located (B) position of the account within this ledger division (C) total number of accounts that are in this ledger division.		19.
20. The most convenient source for obtaining all of the amounts needed on the income statement is the (A) Debit and Credit columns in the general ledger (B) Trial Balance columns of the work sheet (C) Income Statement columns of the work sheet.		20.

Name_____

CENTURY 21
ACCOUNTING
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ACCOUNT John Sutton, Capital						ACCOUNT NO. 31									
DATE		ITEM	POST. REF.	DEBIT			DATE		ITEM	POST. REF.	CREDIT				
							19-- Nov.	1	Balance	✓	6	3	7	0	0
								13		Cl	3	0	0	0	0
											9	3	7	0	0

PROBLEM TEST NO. 2

ACCOUNT <i>Income Summary</i>				ACCOUNT NO. 32			
DATE	ITEM	POST. REF.	DEBIT	DATE	ITEM	POST. REF.	CREDIT

ACCOUNT <i>Commissions Revenue</i>				ACCOUNT NO. 41			
DATE	ITEM	POST. REF.	DEBIT	DATE	ITEM	POST. REF.	CREDIT
				19-Nov. 30		CI	103000

ACCOUNT <i>Advertising Expense</i>				ACCOUNT NO. 51			
DATE	ITEM	POST. REF.	DEBIT	DATE	ITEM	POST. REF.	CREDIT
19-Nov. 14		CI	5600				
26		CI	4200				
			9800				

ACCOUNT <i>Miscellaneous Expense</i>				ACCOUNT NO. 52			
DATE	ITEM	POST. REF.	DEBIT	DATE	ITEM	POST. REF.	CREDIT
19-Nov. 3		CI	2100				
11		CI	1100				
24		CI	2700				
			5900				

ACCOUNT <i>Rent Expense</i>				ACCOUNT NO. 53			
DATE	ITEM	POST. REF.	DEBIT	DATE	ITEM	POST. REF.	CREDIT
19-Nov. 2		CI	300000				

SECTION B — PREPARING AN INCOME STATEMENT (18 points)

[illegible]

PROBLEM TEST NO. 2

SECTION C — PREPARING A BALANCE SHEET (24 points)

INSTRUCTIONS: Prepare a balance sheet for Sutton Travel Agency. Use the form provided.

[illegible]

SECTION D — RECORDING AND POSTING CLOSING ENTRIES (52 points).

INSTRUCTIONS: 1. Record the closing entries for Sutton Travel Agency. Use the general journal form provided.
2. Post the closing entries to the general ledger accounts that appear in Section A.

[illegible]

CLASSIFYING
ACCOUNTS;
ADJUSTING
ENTRIES AND
CLOSING
ENTRIES

OBJECTIVE TEST NO. 3

CHAPTERS

12-17

Name _____

Date _____ Class _____

DIRECTIONS:

Do not open this booklet until you are told to do so.

Do not ask questions during the test.

Specific directions are given at the beginning of each section of the test.

All sample questions are marked "0."

	Perfect Score	Your Score
Pg. 2	33	_____
Pg. 3	29	_____
Pg. 4	36	_____
Total Score	98	<input type="text"/>

CENTURY 21[®] ACCOUNTING

Swanson • Boynton • Ross • Hanson / SECOND EDITION

First-Year
Course



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SECTION A — CLASSIFYING ACCOUNTS

DIRECTIONS: Classify each account title listed below by printing in the Answers column the identifying capital letter (or letters). A for Asset; L for Liability; C for Capital; R for Revenue; E for Expense; CM for Cost of Merchandise.

	Answers	For Scoring		Answers	For Scoring
0. Accounts Payable	L	0. ✓	6. Prepaid Insurance		6.
1. Accounts Receivable		1.	7. Purchases		7.
2. Cash		2.	8. Sara Grimes, Capital		8.
3. Delivery Expense		3.	9. Sara Grimes, Drawing		9.
4. Income Summary		4.	10. Sales		10.
5. Merchandise Inventory		5.	11. Supplies Expense		11.

SECTION B — JOURNALIZING TRANSACTIONS

DIRECTIONS: For each transaction below, print an X in the appropriate Debit column of the combination journal and an X in the appropriate Credit column.

Combination Journal

	Cash		General		Accts. Rec.		Sales		Accts. Pay.		Purchases		For Scoring	
	Debit	Credit	Debit	Credit	Debit	Credit	Debit	Credit	Debit	Credit	Debit	Credit	Debit	Credit
0. Purchased merchandise for cash		X									X		0. ✓	0. ✓
12-13. Paid rent for November													12.	13.
14-15. Bought supplies on account													14.	15.
16-17. Paid salaries													16.	17.
18-19. Paid on account													18.	19.
20-21. Paid delivery expense													20.	21.
22-23. Sold merchandise on account													22.	23.
24-25. Received cash on account													24.	25.
26-27. Cash sale of merchandise													26.	27.
28-29. Owner made cash withdrawal													28.	29.
30-31. Purchased merchandise on account													30.	31.
32-33. Corrected error — supplies bought had been recorded as purchase of merchandise													32.	33.

SECTION C — BUSINESS VOCABULARY

DIRECTIONS: Select the term in Column I that best completes the statement in Column II. Then print the identifying number of that term in the Answers column.

COLUMN I	COLUMN II	Answers	For Scoring
1. ABA numbers	0. The entry that records the data shown on a beginning balance sheet is called an	22	0. ✓
2. bank statement	1. A form on which a brief interoffice message is written is called a		1.
3. blank endorsement	2. The separate capital account in which all withdrawals are recorded is called a		2.
4. canceled checks	3. A copy of an invoice that the seller uses as the source document for recording a sale of merchandise is called a		3.
5. charge customer	4. A copy of an invoice that the buyer uses as the source document for recording purchases is called a		4.
6. check	5. A business that buys and resells goods is called a		5.
7. checking account	6. A transaction in which merchandise is purchased with an agreement to pay at a later date is called a		6.
8. combination journal	7. A person or business to whom a sale on account is made is called a ..		7.
9. cost of merchandise	8. A sales transaction with an agreement that merchandise will be paid for at a later date is called a		8.
10. creditor	9. The account that shows the cost of merchandise purchased for resale to customers is called		9.
11. deposit slip	10. Assets taken out of a business for the personal use of the owner are called		10.
12. dishonored check	11. A form prepared by a buyer describing what he desires to buy is called a		11.
13. drawee	12. A multicolumn journal that combines all journals into one book of original entry is called a		12.
14. drawer	13. The goods that a merchandising business purchases for resale to customers are called		13.
15. drawing account	14. The value of goods a business purchases to resell to customers is called the		14.
16. general journal	15. An itemized list of goods on hand showing their value is called		15.
17. inventory	16. An order in writing, signed by the depositor, ordering the bank to pay cash from the depositor's account to a person or business named is called a		16.
18. making a deposit	17. The bank on which the check is drawn is called the		17.
19. memorandum	18. The person or business to whom the bank is ordered to pay the cash is called the		18.
20. merchandise	19. A check that the bank refuses to pay is called a		19.
21. merchandising business	20. Checks that have been paid by the bank and returned to the depositor with the bank statement are called		20.
22. opening entry	21. The business form provided by the bank on which a depositor lists all cash and checks to be deposited is called a		21.
23. payee	22. An endorsement that consists only of the name of the endorser is called a		22.
24. payer	23. The report the bank sends to a depositor showing the deposits, the withdrawals, and the ending bank balance is called a		23.
25. purchase invoice	24. An endorsement that restricts further transfer of the check is called a		24.
26. purchase on account	25. Identification numbers assigned to banks by the American Bankers Association are called		25.
27. purchase order	26. Placing cash in a bank is called		26.
28. Purchases	27. An endorsement that states to whom the check is to be paid, followed by the name of the endorser, is called a		27.
29. qualified endorsement	The process of bringing the bank balance and the check-stub balance into agreement is called		28.
30. reconciling the bank statement	29. An endorsement in which the endorser does not accept any responsibility for payment on the check is called a		29.

SECTION D — RECORDING ADJUSTING ENTRIES AND CLOSING ENTRIES

DIRECTIONS: For each transaction below, print in the appropriate Answers column the identifying capital letters of the account titles to be debited and credited. Select the letters from the list of titles at the left.

- A — Income Summary
- B — Insurance Expense
- C — Jack Johnson, Capital
- D — Jack Johnson, Drawing
- E — Merchandise Inventory
- F — Prepaid Insurance
- G — Purchases
- H — Salary Expense
- I — Sales
- J — Supplies
- K — Supplies Expense

- 0-0. Make the adjustment for beginning merchandise inventory
- 1-2. Make the adjustment for ending merchandise inventory
- 3-4. Make the adjustment for supplies used
- 5-6. Make the adjustment for the amount of insurance used
- 7-8. Close the sales account
- 9-10. Close the purchases account
- 11-12. Close the insurance expense account
- 13-14. Close the salary expense account
- 15-16. Close the supplies expense account
- 17-18. Close the income summary account (net income balance)
- 19-20. Close the income summary account (net loss balance)
- 21-22. Close the owner's drawing account

Answers		Scoring	
Debit	Credit	Debit	Credit
A	E	0. ✓	0. ✓
		1.	2.
		3.	4.
		5.	6.
		7.	8.
		9.	10.
		11.	12.
		13.	14.
		15.	16.
		17.	18.
		19.	20.
		21.	22.

SECTION E — EXAMINING LEDGERS, STATEMENTS, AND INVENTORY

DIRECTIONS: For each statement given below, place a check mark (✓) in one of the Answers columns to indicate your answer.

- 0. A subsidiary ledger is summarized in a single account in the general ledger
- 23. A financial statement which reports the assets, liabilities, and current capital of a business is called a balance sheet
- 24. The total sales price of all merchandise sold during the fiscal period is called cost of merchandise sold
- 25. The cost of insurance premiums for which benefits have been received is called prepaid insurance
- 26. A schedule of accounts receivable is a list of charge customers that shows the balance due from each customer and the total amount due from all charge customers
- 27. An accounts payable ledger is a subsidiary ledger that contains accounts with charge customers
- 28. A balance sheet with the assets, the liabilities, and the capital listed in a vertical arrangement is called the account form of balance sheet
- 29. A perpetual inventory is an inventory record that shows changes in the amounts on hand as the changes occur
- 30. Gross profit on sales is the revenue that a merchandising business earns from operations after expenses are deducted
- 31. Adjusting entries are made to bring general ledger accounts up to date
- 32. A physical inventory is taken by actually counting the items of merchandise on hand
- 33. Preparing and mailing statements of account to customers on specific days of each month is called cycle billing
- 34. Adjustments are changes that are recorded in the general ledger accounts at the beginning of the fiscal period to bring them up to date
- The general ledger contains all the accounts needed to prepare the income statement and the balance sheet
- 36. When the expenses of a business are greater than the gross profit on sales, the difference is called net income

Answers		For Scoring
True	False	
✓		0. ✓
		23.
		24.
		25.
		26.
		27.
		28.
		29.
		30.
		31.
		32.
		33.
		34.
		35.
		36.

(Chapters 12 to 17 Inclusive)

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CENTURY **21**
ACCOUNTING
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Perfect Score 213 — Deductions _____ = Your Score

SECTION A — RECORDING TRANSACTIONS FOR A MERCHANDISING BUSINESS
(113 points)

Laura Thomason owns Stillwell Camera Shop. She completed the transactions below during November of the current year. The cash balance on November 1 was \$1,860.00.

INSTRUCTIONS: 1. Record the cash balance in the combination journal provided on pages 2 and 3.

2. Record the following transactions in the journal. Source documents are abbreviated as: check, Ck; memorandum, M; purchase invoice, P; receipt, R; sales invoice, S; cash register tape, T.

19--

- Nov. 1 — Paid November rent, \$225.00. Ck45.
- 3 — Sold merchandise on account to Jerry Russ, \$30.00. S28.
- 4 — Received an additional investment from the owner, Laura Thomason, \$375.00. R20.
- 7 — Purchased merchandise from Garst Company for cash, \$225.00. Ck46.
- 10 — Purchased merchandise on account from Zellner Mills, \$120.00. P10.
- 14 — Bought supplies on account from Myles Supply Company, \$105.00. M7.
- 15 — Cash sales of merchandise for the first 15 days, \$500.00. T15.
- 16 — Received on account from Jan Joy, \$22.50. R21.
- 17 — Issued check to owner, Laura Thomason, for cash withdrawal, \$120.00. Ck47.
- 21 — Paid on account to Myles Supply Company, \$75.00. Ck48.
- 22 — Discovered that supplies bought in September had been posted in error to Prepaid Insurance, \$60.00. M8.
- 23 — Bought supplies for cash, \$15.00. Ck49.
- 25 — Recorded bank service charge, \$3.30. M9.
- 28 — Recorded dishonored check received from Jan Joy on November 16, \$22.50, plus fee, \$3.00. M10.
- 30 — Paid salaries, \$90.00. Ck50.
- 30 — Cash sales of merchandise for last 15 days, \$700.00. T30.

INSTRUCTIONS: 3. Foot, prove, total, and rule the combination journal.

PROBLEM TEST NO. 3

Chapters 10 to 17 include

PAGE 1

COMBINATION JOURNAL

1		2				3		4	
CASH		DATE	ACCOUNT TITLE	DOC. NO.	POST. REF.	GENERAL			
DEBIT	CREDIT					DEBIT	CREDIT		
								1	
								2	
								3	
								4	
								5	
								6	
								7	
								8	
								9	
								10	
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								30	
								31	
								32	
								33	

PROBLEM TEST NO. 3

FOR MONTH OF *November*

19 --

PAGE *1*

ACCOUNTS RECEIVABLE		SALES CREDIT	ACCOUNTS PAYABLE		PURCHASES DEBIT	
DEBIT	CREDIT		DEBIT	CREDIT		
1						1
2						2
3						3
4						4
5						5
6						6
7						7
8						8
9						9
10						10
11						11
12						12
13						13
14						14
15						15
16						16
17						17
18						18
19						19
20						20
21						21
22						22
23						23
24						24
25						25
26						26
27						27
28						28
29						29
30						30
31						31
32						32
33						33

SECTION B — WORK SHEET FOR A MERCHANDISING BUSINESS (45 points)

The heading and the Account Title, Acct. No., and Trial Balance columns of the work sheet for Dobson Book Store have been completed.

INSTRUCTIONS: Complete the work sheet for the month ended November 30, 19—. The ending inventory figures are: Merchandise, \$13,680.00; Supplies, \$120.00; and Prepaid Insurance, \$240.00.

Dobson Book Store

Work Sheet

For Month Ended November 30, 19—

	ACCOUNT TITLE	ACCT. NO.	TRIAL BALANCE		ADJUSTMENTS		INCOME STATEMENT		BALANCE SHEET		
			DEBIT	CREDIT	DEBIT	CREDIT	DEBIT	CREDIT	DEBIT	CREDIT	
1	Cash	11	1660000								1
2	Accounts Receivable	12	800000								2
3	Merchandise Inventory	13	1640000								3
4	Supplies	14	180000								4
5	Prepaid Insurance	15	320000								5
6	Accounts Payable	21		1960000							6
7	Glen Dobson, Capital	31		10900000							7
8	Glen Dobson, Drawing	32	160000								8
9	Income Summary	33									9
10	Sales	41		12440000							10
11	Purchases	51	5680000								11
12	Insurance Expense	61									12
13	Miscellaneous Expense	62	100000								13
14	Supplies Expense	63									14
15			2540000	2530000							15
16											16
17											17
18											18
19											19
20											20
21											21
22											22

PROBLEM TEST NO. 3

SECTION C — INCOME STATEMENT FOR A MERCHANDISING BUSINESS (28 points)

For Month Ended November 30, 19--

[illegible]

COMBINATION JOURNAL

[illegible]